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(FILE 'HOME' ENTERED AT 11:49:28 ON 26 AUG 2005)

FILE 'CAPLUS' ENTERED AT 11:49:36 ON 26 AUG 2005

E HALL LACHLAN/AU

L1 13 SEA ABB=ON PLU=ON ("HALL LACHLAN E"/AU OR "HALL LACHLAN EVERETT"/AU)

E SILVERBROOK KIA/AU

L2 199 SEA ABB=ON PLU=ON "SILVERBROOK KIA"/AU

L3 203 SEA ABB=ON PLU=ON L1 OR L2

D 1-10 TI

L4 8 SEA ABB=ON PLU=ON L3 AND (CHROMOPHORE OR DYE)

FILE HOME

FILE CAPLUS

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FILE COVERS 1907 - 26 Aug 2005 VOL 143 ISS 10 FILE LAST UPDATED: 25 Aug 2005 (20050825/ED)

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This file contains CAS Registry Numbers for easy and accurate substance identification.

=> d 1-8 bib abs

- L4 ANSWER 1 OF 8 CAPLUS COPYRIGHT 2005 ACS on STN
- AN 2003:1004592 CAPLUS
- DN 140:6182
- TI Infrared chromophores and printing inks containing them
- IN Hall, Lachlan Everett; Silverbrook, Kia
- PA Australia
- SO U.S. Pat. Appl. Publ., 118 pp., Cont.-in-part of U.S. Ser. No. 693,301. CODEN: USXXCO
- DT Patent
- LA English
- FAN.CNT 11

FAN.	PATENT NO.				KIND		DATE		APPLICATION NO.				DATE						
ΡI						A1			0926									0010	
	EP	1196	752			A1		2002	0417		\mathbf{EP}	20	00-	9383	43		2	0000	630
		R:	ΑT,	BE,	CH,	DE,	DK.	, ES,	FR,	GB,	, GF	۲,	IT,	LI,	LU,	NL,	SE,	MC,	PT,
			•	•	,	•		, RO											
		2002							0711		US	20	01-	9276	85		2	0010	810
	ZA	2002	0008	47		Α		2003	0130		ZA	20	02-	847			2	0020	130
	US	2003	0945	00					0522		US	20	02-	2915	77		2	0021	112
		6843				B2		2005	0118										
	US	2005	0229	37		A1		2005	0203		US	20	04-	9332	85		2	0040	903
		2005						2005	0324		US	20	04-	9493	07		2	0040	927
	US	2005	0645	02		A1		2005	0324		US	20	04-	9864	03		2	0041	112
	US :	2005	0645						0324		US	20	04-	9864	04		2	0041	112
PRAI						Α		1999	0525										
	ΑU	1999	-131	3		Α		1999	0630										
		1999						1999	1025										
	AU :	2000 2000	-937	6		Α		2000	0814										
	AU	2000	-941	2		A	•	2000	0814										
	AU	2000	-950	9		Α			0818										
	AU :	2000	-956	1		Α		2000	0821										
		2000							0821										
	US	2000	-693					2000	1020										
	ΑU	1999	-345	7		Α		1999	1015										
	AU	1999	-439					1999	1201										
	AU	2000	-582	9		Α		2000	0224										
	US	2000	-575	154		A1		2000	0523										
	WO	2000	-AU7	75		W		2000	0630										
	US :	2002	-291	577		A1		2002	1112										
	US :	2002	-322	450		A1		2002	1219										
os	MAR	PAT	140:	6182	_					_									

AB Cycloalkane-based compds., especially IR dyes which absorb strongly in the near IR region of the spectrum but poorly in the visible regions, are disclosed. The dyes are characterized by calculated IR spectra and are suitable for use in IR-absorbing printing inks.

- L4 ANSWER 2 OF 8 CAPLUS COPYRIGHT 2005 ACS on STN
- AN 2002:555843 CAPLUS
- DN 137:126577
- TI Dibenzoanthraquinone based chromophores as infrared dyes for inks for jet printing
- IN Hall, Lachlan Everett; Silverbrook, Kia
- PA Australia
- SO U.S. Pat. Appl. Publ., 98 pp., Cont.-in-part of U.S. Ser. No. 693,301. CODEN: USXXCO
- DT Patent
- LA English
- FAN.CNT 11

rau.	PATENT NO	KIND	DATE	APPLICATION NO.	מייגת		
	======================================			application no.	DATE		
ΡI	US 2002096084	Δ1	20020725	US 2001-928108	20010810		
				EP 2000-938343			
				GB, GR, IT, LI, LU, NL,			
	IE, SI, LT,			OD, OK, 11, 11, 10, NE,	DE, 110, 11,		
	US 2002088064	-		US 2001-927685	20010810		
	ZA 2002000847			ZA 2002-847	20020130		
	US 2003094500						
	US 6843420						
	US 2005022937	A1		US 2004-933285	20040903		
	US 2005061448			US 2004-949307			
	US 2005064502		20050324	US 2004-986403	20041112		
	US 2005064503	A1	20050324	US 2004-986404 .			
PRAI	AU 1999-559		19990525				
	AU 1999-1313	Α	19990630				
	AU 1999-3632	Α	19991025				
	AU 2000-9376	Α	20000814				
	AU 2000-9412	A	20000814				
	AU 2000-9509	Α	20000818				
	AU 2000-9561						
	AU 2000-9571	Α	20000821				
	US 2000-693301		20001020				
	AU 1999-3457		19991015				
	AU 1999-4392		19991201				
	AU 2000-5829		20000224				
	US 2000-575154		20000523				
	WO 2000-AU775		20000630				
	US 2002-291577		20021112				
		A1	20021219				
os	MARPAT 137:126577						

AB An IR dye, a derivative of dibenzoanthraquinone has an absorption peak in the near IR and a high value of Fratio, that is cratio >2. Calculated absorption spectra were given for the zwitterionic forms of 8 dyes.

- L4 ANSWER 3 OF 8 CAPLUS COPYRIGHT 2005 ACS on STN
- AN 2002:555827 CAPLUS
- DN 137:126576
- TI Bridged diarylpolymethine chromophores as infrared dyes for inks for jet printing or offset printing
- IN Hall, Lachlan Everett; Silverbrook, Kia
- PA Australia
- SO U.S. Pat. Appl. Publ., 104 pp., Cont.-in-part of U.S. Ser. No. 693,301. CODEN: USXXCO
- DT Patent
- LA English
- FAN.CNT 11

ran.	PATENT NO.		DATE	APPLICATION NO.	DATE
ΡI	IIS 2002095733	 Δ1	20020725	US 2001-928055	20010810
				EP 2000-938343	
				GB, GR, IT, LI, LU, NL,	
	IE, SI, LT,			3B, GR, 11, H1, H0, NH,	25, MC, PI,
				ZA 2002-847	20020130
	US 2003094500	Δ1	20030533	US 2002-291577	20020130
	US 6843420	B2	20050118	05 2002 231377	20021112
	US 2005022937	A1		US 2004-933285	20040903
	US 2005061448			US 2004-949307	
	US 2005064502			US 2004-986403	
	US 2005064503			US 2004-986404	
PRAI	AU 1999-559				
	AU 1999-1313		19990630		
	AU 1999-3457				
	AU 1999-3632				
	AU 1999-4392	Α	19991201		
	AU 2000-9376				
	AU 2000-9412				
	AU 2000-9509	A	20000818		
	AU 2000-9561				•
	AU 2000-9571		20000821		
	US 2000-693301	A2	20001020		
	AU 2000-5829	Α	20000224		
	US 2000-575154	A1	20000523		
	WO 2000-AU775	W	20000630 .		
	US 2002-291577	A1	20021112		
	US 2002-322450	A1	20021219		
os	MARPAT 137:126576				

AB An IR dye comprises 2 bridged diarylpolymethine type dyes or derivs. connected together at either the 3, 4, 5 or 6 position by a central moiety such that the 2 dyes are located on each side of the central moiety, where the IR dye absorbs strongly in the near IR region of the spectrum but poorly in the visible region of the spectrum. The central moiety is selected from squarylium, croconium, methinologs and derivs. Calculated absorption spectra are shown for the zwitterionic forms of 8 dyes.

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ANSWER 4 OF 8 CAPLUS COPYRIGHT 2005 ACS on STN
L4
ΑN
       2002:142815 CAPLUS
       136:185329
DN
ΤI
       Infrared chromophores and printing inks containing them
       Hall, Lachlan Everett; Silverbrook, Kia
IN
       Silverbrook Research Pty. Ltd., Australia
PA
       PCT Int. Appl., 42 pp.
SO
       CODEN: PIXXD2
DT
       Patent
LA
       English
FAN.CNT 11
       PATENT NO.
                                     KIND
                                                DATE
                                                                 APPLICATION NO.
                                     ----
ΡI
       WO 2002014438
                                      A1
                                                20020221
                                                                 WO 2001-AU999
                                                                                                     20010814
             W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN,
             W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG
                                                20020225
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       AU 2001079501
                                      A5
PRAI AU 2000-9376
                                       Α
                                                20000814
       AU 2000-9412
                                       Α
                                                20000814
       AU 2000-9509
                                       Α
                                                20000818
       AU 2000-9561
                                      Α
                                                20000821
       AU 2000-9571
                                       Α
                                                20000821
       WO 2001-AU999
                                       W
                                                20010814
os
       MARPAT 136:185329
AB
       Cycloalkane-based IR dyes which absorb strongly in the near IR
       region of the spectrum but poorly in the visible regions are disclosed.
       The dyes are characterized by calculated IR spectra and are suitable
       for use in IR-absorbing printing inks.
RE.CNT 3
                    THERE ARE 3 CITED REFERENCES AVAILABLE FOR THIS RECORD
```

ALL CITATIONS AVAILABLE IN THE RE FORMAT

```
ANSWER 5 OF 8 CAPLUS COPYRIGHT 2005 ACS on STN
L4
AN
      2002:142814 CAPLUS
DN
      136:185328
ΤI
      Cycloalkenone-bridged heterocyclic diarylpolymethine near-IR dyes
      and printing inks containing them
IN
      Hall, Lachlan Everett; Silverbrook, Kia
      Silverbrook Research Pty. Ltd., Australia
PA
so
      PCT Int. Appl., 23 pp.
      CODEN: PIXXD2
DT
      Patent
      English
LA
FAN.CNT 11
      PATENT NO.
                               KIND
                                        DATE
                                                       APPLICATION NO.
                                                                                     DATE
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PΙ
      WO 2002014437
                                A1
                                        20020221
                                                       WO 2001-AU1002
                                                                                     20010814
           W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM
           RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF,
                BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG
                                                       AU 2001-79503
      AU 2001079503
                                A5
                                        20020225
PRAI AU 2000-9376
                                Α
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      AU 2000-9412
                                Α
                                        20000814
      AU 2000-9509
                                Α
                                        20000818
      AU 2000-9561
                                Α
                                        20000821
      AU 2000-9571
                                Α
                                        20000821
      WO 2001-AU1002
                                 W
                                        20010814
os
      MARPAT 136:185328
AΒ
      Disclosed are IR dyes which comprise two bridged
      diarylpolymethine type dyes or derivs. thereof connected
      together by a central cycloalkenone moiety, wherein the dyes
      absorb strongly in the near-IR region of the spectrum but poorly in the
      visible region of the spectrum. The dyes, typically
      squarylium-based, are suitable for IR jet-printing inks.
                                                                               Examples of
      calculated spectra were given for 8 zwitterionic dyes.
RE.CNT 6
                 THERE ARE 6 CITED REFERENCES AVAILABLE FOR THIS RECORD
                 ALL CITATIONS AVAILABLE IN THE RE FORMAT
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```
ANSWER 6 OF 8 CAPLUS COPYRIGHT 2005 ACS on STN
L4
       2002:142812 CAPLUS
AN
DN
       136:185327
ΤI
       Heterocyclic quinone near-IR dyes and printing inks containing
       Hall, Lachlan Everett; Silverbrook, Kia
IN
PA
       Silverbrook Research Pty. Ltd., Australia
SO
       PCT Int. Appl., 17 pp.
       CODEN: PIXXD2
DΤ
       Patent
       English
LA
FAN.CNT 11
       PATENT NO.
                                     KIND
                                                DATE
                                                                  APPLICATION NO.
                                                                                                     DATE
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PΙ
       WO 2002014435
                                                20020221
                                                                  WO 2001-AU1001
                                      A1
                                                                                                     20010814
             W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG
       AU 2001079502
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                                      A5
                                                20020225
PRAI AU 2000-9376
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       AU 2000-9412
                                       Α
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       AU 2000-9509
                                       Α
                                                20000818
                                    . A
       AU 2000-9561
                                                20000821
       AU 2000-9571
                                       Α
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       WO 2001-AU1001
                                       W
                                                20010814
os
       MARPAT 136:185327
       IR dyes which absorb strongly in the near-IR region of the
       spectrum but poorly in the visible region are disclosed. The heterocyclic
       polycyclic quinone dyes are suitable for solvent-based jet
       printing inks. Calculated spectra for 8 zwitterionic dyes were
       given.
RE.CNT 2
                     THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD
```

ALL CITATIONS AVAILABLE IN THE RE FORMAT

```
ANSWER 7 OF 8 CAPLUS COPYRIGHT 2005 ACS on STN
L4
AN
       2002:142811 CAPLUS
DN
       136:185326
ΤI
       Near-IR heterocyclic dyes and solvent-based inks containing them
       Hall, Lachlan Everett; Silverbrook, Kia
IN
       Silverbrook Research Pty. Ltd., Australia
PA
SO
       PCT Int. Appl., 17 pp.
       CODEN: PIXXD2
DТ
       Patent
LΑ
       English
FAN.CNT 11
       PATENT NO.
                                   KIND
                                              DATE
                                                               APPLICATION NO.
                                                                                                 DATE
                                    ----
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PΙ
       WO 2002014434
                                              20020221
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                                     A1
                                                                                                 20010814
            W: AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KR, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NO, NZ, PL, PT, RO, RU, SD, SE, SG, SI, SK, SL, TJ, TM, TR, TT, TZ, UA, UG, US, UZ, VN, YU, ZA, ZW, AM, AZ, BY, KG, KZ, MD, RU, TJ, TM

RW: GH, GM, KE, LS, MW, MZ, SD, SL, SZ, TZ, UG, ZW, AT, BE, CH, CY, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE, TR, BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG
       AU 2001083676
                                     A5
                                              20020225
                                                               AU 2001-83676
PRAI AU 2000-9376
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       AU 2000-9571
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                                     Α
       WO 2001-AU1000
                                              20010814
                                     W
OS
       MARPAT 136:185326
AB
       IR dyes which absorb strongly in the near-IR region of the
       spectrum but poorly in the visible region are disclosed. They are useful
       as IR absorbers in IR jet-printing inks. Calculated absorption spectra were
       given for the zwitterionic forms of 5 heterocyclic quinone dyes.
RE.CNT 2
                    THERE ARE 2 CITED REFERENCES AVAILABLE FOR THIS RECORD
                    ALL CITATIONS AVAILABLE IN THE RE FORMAT
```

- L4 ANSWER 8 OF 8 CAPLUS COPYRIGHT 2005 ACS on STN
- AN 1997:414061 CAPLUS
- DN 127:36070
- TI Dye and pigment in a microemulsion based ink
- IN Silverbrook, Kia
- PA Eastman Kodak Company, USA; Silverbrook, Kia
- SO PCT Int. Appl., 115 pp.
 - CODEN: PIXXD2
- DT Patent
- LA English
- FAN.CNT 1

PATENI	PATENT NO.		DATE	APPLICATION NO.	DATE		
PI WO 971	6497 JP, US	A1	19970509	WO 1996-US16904	19961021		

RW: AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE PRAI AU 1995-6241 A 19951030

 ${\tt AB}$ An ink composition having the property of a large reduction of surface tension with

increasing temperature, phase inversion temperature 60-70°, and also a high colorant loading is comprised of water-soluble dyes, oil-soluble dyes, H2O miscible pigments, and oil miscible pigments. Incorporating oil-soluble dyes and/or oil miscible pigments in the oil component of the microemulsion can increase the colorant loading without substantially increasing the viscosity of the ink. Low viscosity is important for printers based on LIFT (liquid ink fault tolerant) printing principles, printing speed improves with low viscosity. Pigment or dyes can be simultaneously incorporated in the H2O phase of the microemulsion.